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[illegible]

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Val	Lys	Gln	Gly	Leu	Leu	Gly	Asp	Cys	Trp	Phe	Leu	Cys	Ala	Cys	Ala			
Ala	Leu	Gln	Lys	Ser	Arg	His	Leu	Leu	Asp	Gln	Val	Ile	Pro	Pro	Gly			
Gln	Pro	Ser	Trp	Ala	Asp	Gln	Glu	Tyr	Arg	Gly	Ser	Phe	Thr	Cys	Arg			
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Glu	Glu	Glu	Phe	Leu	Arg	Glu	Phe	Asp	Glu	Leu	Thr	Val	Gly	Tyr	Pro			
Val	Thr	Glu	Ala	Gly	His	Leu	Gln	Ser	Leu	Tyr	Thr	Glu	Arg	Leu	Leu			

Cys His Thr Arg Ala Leu Pro Gly Ala Trp Val Lys Gly Gln Ser Ala
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Gly Gly Cys Arg Asn Asn Ser Gly Phe Pro Ser Asn Pro Lys Phe Trp
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Leu Arg Val Ser Glu Pro Ser Glu Val Tyr Ile Ala Val Leu Gln Arg
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Ser Arg Leu His Ala Ala Asp Trp Ala Gly Arg Ala Arg Ala Leu Val
385 390 395 400

Gly Asp Ser His Thr Ser Trp Ser Pro Ala Ser Ile Pro Gly Lys His
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Tyr Gln Ala Val Gly Leu His Leu Trp Lys Val Glu Lys Arg Arg Val
420 425 430

Asn Leu Pro Arg Val Leu Ser Met Pro Pro Val Ala Gly Thr Ala Cys
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His Ala Tyr Asp Arg Glu Val His Leu Arg Cys Glu Leu Ser Pro Gly
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Tyr Tyr Leu Ala Val Pro Ser Thr Phe Leu Lys Asp Ala Pro Gly Glu
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Phe Leu Leu Arg Val Phe Ser Thr Gly Arg Val Ser Leu Ser Ala Ile
485 490 495

Arg Ala Val Ala Lys Asn Thr Thr Pro Gly Ala Ala Leu Pro Ala Gly
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Glu Trp Gly Thr Val Gln Leu Arg Gly Ser Trp Arg Val Gly Gln Thr
515 520 525

Ala Gly Gly Ser Arg Asn Phe Ala Ser Tyr Pro Thr Asn Pro Cys Phe
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Pro Phe Ser Val Pro Glu Gly Pro Gly Pro Arg Cys Val Arg Ile Thr
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Leu His Gln His Cys Arg Pro Ser Asp Thr Glu Phe His Pro Ile Gly
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Phe His Ile Phe Gln Val Pro Glu Gly Gly Arg Ser Gln Asp Ala Pro
580 585 590

Pro Leu Leu Leu Gln Glu Pro Leu Leu Ser Cys Val Pro His Arg Tyr
595 600 605

Ala Gln Glu Val Ser Arg Leu Cys Leu Leu Pro Ala Gly Thr Tyr Lys
610 615 620

Val Val Pro Ser Thr Tyr Leu Pro Asp Thr Glu Gly Ala Phe Thr Val
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35 40 45
Ile Cys Ala Thr Pro Arg Leu Phe Pro Asp Asp Pro Arg Glu Gly Gln
50 55 60
Val Lys Gln Gly Leu Leu Gly Asp Cys Trp Phe Leu Cys Ala Cys Ala
65 70 75 80
Ala Leu Gln Lys Ser Arg His Leu Leu Asp Gln Val Ile Pro Pro Gly
85 90 95
Gln Pro Ser Trp Ala Asp Gln Glu Tyr Arg Gly Ser Phe Thr Cys Arg
100 105 110
Ile Trp Gln Phe Gly Arg Trp Val Glu Val Thr Thr Asp Asp Arg Leu
115 120 125
Pro Cys Leu Ala Gly Arg Leu Cys Phe Ser Arg Cys Gln Arg Glu Asp
130 135 140
Val Phe Trp Leu Pro Leu Leu Glu Lys Val Tyr Ala Lys Val His Gly
145 150 155 160
Ser Tyr Glu His Leu Trp Ala Gly Gln Val Ala Asp Ala Leu Val Asp
165 170 175
Leu Thr Gly Gly Leu Ala Glu Arg Trp Asn Leu Lys Gly Val Ala Gly
180 185 190
Ser Gly Gly Gln Gln Asp Arg Pro Gly Arg Trp Glu His Arg Thr Cys
195 200 205
Arg Gln Leu Leu His Leu Lys Asp Gln Cys Leu Ile Ser Cys Cys Val
210 215 220
Leu Ser Pro Arg Ala Gly Ala Arg Glu Leu Gly Glu Phe His Ala Phe
225 230 235 240
Ile Val Ser Asp Leu Arg Glu Leu Gln Gly Gln Ala Gly Gln Cys Ile
245 250 255
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260 265 270
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Glu Glu Glu Phe Leu Arg Glu Phe Asp Glu Leu Thr Val Gly Tyr Pro
305 310 315 320

Val Thr Glu Ala Gly His Leu Gln Ser Leu Tyr Thr Glu Arg Leu Leu
325 330 335

Cys His Thr Arg Ala Leu Pro Gly Ala Trp Val Lys Gly Gln Ser Ala
340 345 350

Gly Gly Cys Arg Asn Asn Ser Gly Phe Pro Ser Asn Pro Lys Phe Trp
355 360 365

Leu Arg Val Ser Glu Pro Ser Glu Val Tyr Ile Ala Val Leu Gln Arg
370 375 380

Ser Arg Leu His Ala Ala Asp Trp Ala Gly Arg Ala Arg Ala Leu Val
385 390 395 400

Gly Asp Ser His Thr Ser Trp Ser Pro Ala Ser Ile Pro Gly Lys His
405 410 415

Tyr Gln Ala Val Gly Leu His Leu Trp Lys Val Glu Lys Arg Arg Val
420 425 430

Asn Leu Pro Arg Val Leu Ser Met Pro Pro Val Ala Gly Thr Ala Cys
435 440 445

His Ala Tyr Asp Arg Glu Val His Leu Arg Cys Glu Leu Ser Pro Gly
450 455 460

Tyr Tyr Leu Ala Val Pro Ser Thr Phe Leu Lys Asp Ala Pro Gly Glu
465 470 475 480

Phe Leu Leu Arg Val Phe Ser Thr Gly Arg Val Ser Leu Arg Ala Leu
485 490 495

Ala Pro Ala Ala Ser Ala Ser Leu Cys Ile Ser Thr Ala Gly Pro Val
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 Ile Cys Ala Thr Pro Arg Leu Phe Pro Asp Asp Pro Arg Glu Gly Gln
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 Val Lys Gln Gly Leu Leu Gly Asp Cys Trp Phe Leu Cys Ala Cys Ala
 65 70 75 80
 Ala Leu Gln Lys Ser Arg His Leu Leu Asp Gln Val Ile Pro Pro Gly
 85 90 95
 Gln Pro Ser Trp Ala Asp Gln Glu Tyr Arg Gly Ser Phe Thr Cys Arg
 100 105 110
 Ile Trp Gln Phe Gly Arg Trp Val Glu Val Thr Thr Asp Asp Arg Leu
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Gly Ala Phe Thr Val Thr Ile Ala Thr Arg Ile Asp Arg Pro Ser Ile
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Ala Val Met Lys Thr
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 <213> Human


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      35          40          45

Ile Cys Ala Thr Pro Arg Leu Phe Pro Asp Asp Pro Arg Glu Gly Gln
      50          55          60

Val Lys Gln Gly Leu Leu Gly Asp Cys Trp Phe Leu Cys Ala Cys Ala
      65          70          75          80

Ala Leu Gln Lys Ser Arg His Leu Leu Asp Gln Val Ile Pro Pro Gly
      85          90          95

Gln Pro Ser Trp Ala Asp Gln Glu Tyr Arg Gly Ser Phe Thr Cys Arg
      100          105          110

Ile Trp Gln Phe Gly Arg Trp Val Glu Val Thr Thr Asp Asp Arg Leu
      115          120          125

Pro Cys Leu Ala Gly Arg Leu Cys Phe Ser Arg Cys Gln Arg Glu Asp
      130          135          140

Val Phe Trp Leu Pro Leu Leu Glu Lys Val Tyr Ala Lys Val His Gly
      145          150          155          160

Ser Tyr Glu His Leu Trp Ala Gly Gln Val Ala Asp Ala Leu Val Asp
      165          170          175

Leu Thr Gly Gly Leu Ala Glu Arg Trp Asn Leu Lys Gly Val Ala Gly
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Ser Gly Gly Gln Gln Asp Arg Pro Gly Arg Trp Glu His Arg Thr Cys
      195          200          205

Arg Gln Leu Leu His Leu Lys Asp Gln Cys Leu Ile Ser Cys Cys Val
      210          215          220

Leu Ser Pro Arg Ala Gly Ala Arg Glu Leu Gly Glu Phe His Ala Phe
      225          230          235          240

Ile Val Ser Asp Leu Arg Glu Leu Gln Gly Gln Ala Gly Gln Cys Ile
      245          250          255

Leu Leu Leu Arg Ile Gln Asn Pro Trp Gly Arg Arg Cys Trp Gln Gly
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Leu Trp Arg Glu Gly Gly Glu Gly Trp Ser Gln Val Asp Ala Ala Val
      275          280          285

Ala Ser Glu Leu Leu Ser Gln Leu Gln Glu Gly Glu Phe Trp Val Glu
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THE **NEW** **YORK** **PUBLIC** **LIBRARY**

<211> 444

<213> Human

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50 55 60

Val Lys Gln Gly Leu Leu Gly Asp Cys Trp Phe Leu Cys Ala Cys Ala
65 70 75 80

Ala Leu Gln Lys Ser Arg His Leu Leu Asp Gln Val Ile Pro Pro Gly
85 90 95

Gln Pro Ser Trp Ala Asp Gln Glu Tyr Arg Gly Ser Phe Thr Cys Arg
100 105 110

Ile Trp Gln Phe Gly Arg Trp Val Glu Val Thr Thr Asp Asp Arg Leu
115 120 125

Pro Cys Leu Ala Gly Arg Leu Cys Phe Ser Arg Cys Gln Arg Glu Asp
130 135 140

Val Phe Trp Leu Pro Leu Leu Glu Lys Val Tyr Ala Lys Val His Gly
145 150 155 160

25

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Arg	Gln	Leu	Leu	His	Leu	Lys	Asp	Gln	Cys	Leu	Ile	Ser	Cys	Cys	Val	
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Leu	Ser	Pro	Arg	Ala	Gly	Ala	Arg	Glu	Leu	Gly	Glu	Phe	His	Ala	Phe	
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27

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Ile Trp Gln Phe Gly Arg Trp Val Glu Val Thr Thr Asp Asp Arg Leu	115	120	125
Pro Cys Leu Ala Gly Arg Leu Cys Phe Ser Arg Cys Gln Arg Glu Asp	130	135	140
Val Phe Trp Leu Pro Leu Leu Glu Lys Gly Pro Trp Val Leu Arg Ala	145	150	155
Pro Val Gly Arg Ala Gly Gly Gly Cys Pro Gly Gly Pro Asp Arg Arg	165	170	175
Pro Gly Arg Lys Met Glu Pro Glu Gly Arg Ser Arg Lys Arg Arg Pro	180	185	190
Ala Gly Gln Ala Arg Pro Leu Gly Ala Gln Asp Leu Ser Ala Ala Ala	195	200	205
Pro Pro Glu Gly Pro Val Ser Asp Gln Leu Leu Arg Ala Gln Pro Gln	210	215	220
Ser Arg Cys Pro Gly Ala Gly Gly Val Pro Cys Leu His Cys Leu Gly	225	230	235
Pro Ala Gly Ala Pro Gly Ser Gly Gly Pro Val His Pro Ala Ala Ala	245	250	255
Asp Pro Glu Pro Leu Gly Pro Ala Val Leu Ala Gly Ala Leu Glu Arg	260	265	270
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<213> Human

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35 40 45

Ile Cys Ala Thr Pro Arg Leu Phe Pro Asp Asp Pro Arg Glu Gly Gln
50 55 60

Val Lys Gln Gly Leu Leu Gly Asp Cys Trp Phe Leu Cys Ala Cys Ala
65 70 75 80

Ala Leu Gln Lys Ser Arg His Leu Leu Asp Gln Val Ser Cys Pro Val
85 90 95

Gln Leu Pro Ala Asp Trp Thr Cys Lys Val Gln Pro Val Trp Leu Glu
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 35 40 45
 Pro Glu Gly Gly Arg Ser Gln Asp Ala Pro Pro Leu Leu Leu Gln Glu
 50 55 60
 Pro Leu Leu Ser Cys Val Pro His Arg Tyr Ala Gln Glu Val Ser Arg
 65 70 75 80
 Leu Cys Leu Leu Pro Ala Gly Thr Tyr Lys Val Val Pro Ser Thr Tyr
 85 90 95
 Leu Pro Asp Thr Glu Gly Ala Phe Thr Val Thr Ile Ala Thr Arg Ile
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 Asp Arg Pro Ser Ile His Ser Gln Glu Met Leu Gly Gln Phe Leu Gln
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Glu Val Ser Val Met Ala Val Met Lys Thr
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<211> 864
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Ile Cys Ala Thr Pro Gln Leu Phe Pro Asp Asn Pro Trp Glu Gly Gln
50 55 60
Val Lys Gln Gly Leu Leu Gly Asp Cys Trp Phe Leu Cys Ala Cys Ala
65 70 75 80
Ala Leu Gln Lys Ser Gln His Leu Leu Asp Gln Val Phe Pro Pro Gly
85 90 95
Gln Pro Gly Trp Ser Asp Gln Lys Tyr Gln Gly Phe Phe Thr Cys Arg
100 105 110
Ile Trp Gln Phe Gly His Trp Glu Glu Val Thr Ile Asp Asp Arg Leu
115 120 125
Pro Cys Leu Ala Gly Arg Leu Cys Phe Ser Arg Cys Gln Arg Glu Asp
130 135 140
Val Phe Trp Leu Pro Leu Leu Glu Lys Ala Tyr Ala Lys Val His Gly
145 150 155 160

Ser Tyr Glu His Leu Trp Ala Gly Gln Val Ala Asp Ala Leu Val Asp
165 170 175

Leu Thr Gly Ser Leu Ala Glu Arg Trp Ser Leu Lys Asp Val Thr Lys
180 185 190

Ala Ser Gly Gln Gln Asp Arg Pro Ser Gly Gly Glu His Arg Thr Cys
195 200 205

Arg Gln Leu Leu His Leu Lys Asp Arg Cys Leu Ile Ser Cys Ser Val
210 215 220

Leu Ser Pro Arg Ala Gly Ala Arg Glu Leu Gly Glu Phe His Ala Phe
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Ile Ile Ser Asp Leu Gln Glu Leu Arg Ser Gln Thr Gly Gln Gly Ile
245 250 255

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260 265 270

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275 280 285

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290 295 300

Glu Glu Glu Phe Leu Arg Glu Phe Asp Glu Val Thr Ile Gly Tyr Pro
305 310 315 320

Val Thr Glu Ala Gly His Leu Gln Ser Leu His Thr Glu Arg Val Leu
325 330 335

Cys His Thr Arg Thr Leu Pro Gly Ala Trp Val Thr Gly Gln Ser Ala
340 345 350

Gly Gly Cys Arg Asn Asn Ser Cys Phe Pro Cys Asn Pro Lys Phe Trp
355 360 365

Leu Arg Leu Leu Glu Pro Ser Glu Val Cys Val Ala Val Leu Gln Arg
370 375 380

Pro Arg Arg Arg Leu Val Gly Gln Thr Arg Ala Leu Ala Gly Ala Ser
385 390 395 400

Pro Ala Pro Val Asn Leu Pro Gly Lys Asp Tyr Gln Ala Val Gly Leu
405 410 415

His Ile Trp Lys Val Glu Lys Arg Lys Ile Ser Leu Pro Arg Val Leu
420 425 430

Ser Ala Pro Pro Val Ala Gly Thr Ala Cys His Ala Tyr Asp Arg Glu
435 440 445

Ile His Leu Arg Cys Glu Leu Ser Pro Gly Tyr Tyr Leu Ala Val Pro
450 455 460

Ser Thr Phe Leu Lys Asp Val Pro Gly Gln Phe Leu Leu Arg Val Phe
465 470 475 480

1. **Introduction**
 2. **Background**
 3. **Methods**
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Lys Arg Asn Leu Ser Glu Glu Val Glu Asn Thr Ile Ser Val Asp Arg		
	580	585 590
Pro Val Lys Lys Lys Lys Thr Lys Pro Ile Ile Phe Val Ser Asp Arg		
	595	600 605
Ala Asn Ser Asn Lys Glu Leu Gly Val Asp Gln Glu Ser Glu Glu Gly		
	610	615 620
Lys Gly Lys Thr Ser Pro Asp Lys Gln Lys Gln Ser Pro Gln Pro Gln		
	625	630 635 640
Pro Gly Ser Ser Asp Gln Glu Ser Glu Glu Gln Gln Gln Phe Arg Asn		
	645	650 655
Ile Phe Lys Gln Ile Ala Gly Asp Asp Met Glu Ile Cys Ala Asp Glu		
	660	665 670
Leu Lys Lys Val Leu Asn Thr Val Val Asn Lys His Lys Asp Leu Lys		
	675	680 685
Thr His Gly Phe Thr Leu Glu Ser Cys Arg Ser Met Ile Ala Leu Met		
	690	695 700

Asp Thr Asp Gly Ser Gly Lys Leu Asn Leu Gln Glu Phe His His Leu
705 710 715 720

Trp Asn Lys Ile Lys Ala Trp Gln Lys Ile Phe Lys His Tyr Asp Thr
725 730 735

Asp Gln Ser Gly Thr Ile Asn Ser Tyr Glu Met Arg Asn Ala Val Asn
740 745 750

Asp Ala Gly Phe His Leu Asn Asn Gln Leu Tyr Asp Ile Ile Thr Met
755 760 765

Arg Tyr Ala Asp Lys His Met Asn Ile Asp Phe Asp Ser Phe Ile Cys
770 775 780

Cys Phe Val Arg Leu Glu Gly Met Phe Arg Ala Phe His Ala Phe Asp
785 790 795 800

Lys Asp Gly Asp Gly Ile Ile Lys Leu Asn Val Leu Glu Trp Leu Gln
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Leu Thr Met Tyr Ala
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Arg Arg Asp Cys Arg Arg Arg Lys Val Leu Phe Glu Asp Pro Leu Phe
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Pro Ala Thr Asp Asp Ser Leu Tyr Tyr Lys Gly Thr Pro Gly Pro Ala
35 40 45

Val Arg Arg Lys Arg Pro Lys Gly Ile Cys Glu Asp Pro Arg Leu Phe
50 55 60

Val Asp Gly Ile Ser Ser His Asp Leu His Gln Gly Gln Val Gly Asn
65 70 75 80

Cys Trp Phe Val Ala Ala Cys Ser Ser Leu Ala Ser Arg Glu Ser Leu
85 90 95

Trp Gln Lys Val Ile Pro Asp Trp Lys Glu Gln Glu Trp Asp Pro Glu
100 105 110

Lys Pro Asn Ala Tyr Ala Gly Ile Phe His Phe His Phe Trp Arg Phe
115 120 125

Gly Trp Val Asp Val Val Ile Asp Asp Arg Leu Pro Thr Val Asn Asn
130 135 140

Gln Leu Ile Tyr Cys His Ser Asn Ser Arg Asn Glu Phe Trp Cys Ala
145 150 155 160

Leu Val Glu Lys Ala Tyr Ala Lys Leu Ala Gly Cys Tyr Gln Ala Leu
 165 170 175
 Asp Gly Gly Asn Thr Ala Asp Ala Leu Val Asp Phe Thr Gly Gly Val
 180 185 190
 Ser Glu Pro Ile Asp Leu Thr Glu Gly Asp Phe Ala Asn Asp Glu Thr
 195 200 205
 Lys Arg Asn Gln Leu Phe Glu Arg Met Leu Lys Val His Ser Arg Gly
 210 215 220
 Gly Leu Ile Ser Ala Ser Ile Lys Ala Val Thr Ala Ala Asp Met Glu
 225 230 235 240
 Ala Arg Leu Ala Cys Gly Leu Val Lys Gly His Ala Tyr Ala Val Thr
 245 250 255
 Asp Val Arg Lys Val Arg Leu Gly His Gly Leu Leu Ala Phe Phe Lys
 260 265 270
 Ser Glu Lys Leu Asp Met Ile Arg Leu Arg Asn Pro Trp Gly Glu Arg
 275 280 285
 Glu Trp Asn Gly Pro Trp Ser Asp Thr Ser Glu Glu Trp Gln Lys Val
 290 295 300
 Ser Lys Ser Glu Arg Glu Lys Met Gly Val Thr Val Gln Asp Asp Gly
 305 310 315 320
 Glu Phe Trp Met Thr Phe Glu Asp Val Cys Arg Tyr Phe Thr Asp Ile
 325 330 335
 Ile Lys Cys Arg Val Ile Asn Thr Ser His Leu Ser Ile His Lys Thr
 340 345 350
 Trp Glu Glu Ala Arg Leu His Gly Ala Trp Thr Leu His Glu Asp Pro
 355 360 365
 Arg Gln Asn Arg Gly Gly Gly Cys Ile Asn His Lys Asp Thr Phe Phe
 370 375 380
 Gln Asn Pro Gln Tyr Ile Phe Glu Val Lys Lys Pro Glu Asp Glu Val
 385 390 395 400
 Leu Ile Cys Ile Gln Gln Arg Pro Lys Arg Ser Thr Arg Arg Glu Gly
 405 410 415
 Lys Gly Glu Asn Leu Ala Ile Gly Phe Asp Ile Tyr Lys Val Glu Glu
 420 425 430
 Asn Arg Gln Tyr Arg Met His Ser Leu Gln His Lys Ala Ala Ser Ser
 435 440 445
 Ile Tyr Ile Asn Ser Arg Ser Val Phe Leu Arg Thr Asp Gln Pro Glu
 450 455 460
 Gly Arg Tyr Val Ile Ile Pro Thr Thr Phe Glu Pro Gly His Thr Gly
 465 470 475 480

[illegible]

450 455 460

Gly Ser Tyr Val Leu Val Pro Thr Met Phe Gln His Gly Arg Thr Ser
465 470 475 480

Glu Phe Leu Leu Arg Ile Phe Ser Glu Val Pro Val Gln Leu Arg Glu
485 490 495

Leu Thr Leu Asp Met Pro Lys Met Ser Cys Trp Asn Leu Ala Arg Gly
500 505 510

Tyr Pro Lys Val Val Thr Gln Ile Thr Val His Ser Ala Glu Gly Leu
515 520 525

Glu Lys Lys Tyr Ala Asn Glu Thr Val Asn Pro Tyr Leu Ile Ile Lys
530 535 540

Cys Gly Lys Glu Glu Val Arg Ser Pro Val Gln Lys Asn Thr Val His
545 550 555 560

Ala Ile Phe Asp Thr Gln Ala Val Phe Tyr Arg Arg Thr Thr Asp Ile
565 570 575

Pro Ile Ile Ile Gln Val Trp Asn Ser Arg Lys Phe Cys Asp Gln Phe
580 585 590

Leu Gly Gln Val Thr Leu Asp Ala Asp Pro Ser Asp Cys Arg Asp Leu
595 600 605

Lys Ser Leu Tyr Leu Arg Lys Lys Gly Gly Pro Thr Ala Lys Val Lys
610 615 620

Gln Gly His Ile Ser Phe Lys Val Ile Ser Ser Asp Asp Leu Thr Glu
625 630 635 640

Leu

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<211> 703
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Gly Leu Gly Ser Asn Gln Asn Ala Val Lys Tyr Leu Gly Gln Asp Phe
20 25 30

Glu Thr Leu Arg Lys Gln Cys Leu Asn Ser Gly Val Leu Phe Lys Asp
35 40 45

Pro Glu Phe Pro Ala Cys Pro Ser Ala Leu Gly Tyr Lys Asp Leu Gly
50 55 60

Pro Gly Ser Pro Asp Thr Gln Gly Ile Val Trp Lys Arg Pro Thr Glu
65 70 75 80

Leu Cys Pro Asn Pro Gln Phe Ile Val Gly Gly Ala Thr Arg Thr Asp

85								90				95			
Ile	Arg	Gln	Gly 100	Gly	Leu	Gly	Asp	Cys 105	Trp	Leu	Leu	Ala	Ala	Ile	Ala
Ser	Leu	Thr 115	Leu	Asn	Glu	Lys	Leu 120	Leu	Tyr	Arg	Val	Leu 125	Pro	Arg	Asp
Gln	Ser 130	Phe	Gln	Lys	Asp	Tyr 135	Ala	Gly	Ile	Phe	His 140	Phe	Gln	Phe	Trp
Gln 145	Tyr	Gly	Glu	Trp	Val 150	Glu	Val	Val	Ile	Asp 155	Asp	Arg	Leu	Pro	Thr 160
Lys	Asn	Gly	Gln	Leu 165	Leu	Phe	Leu	His 170	Ser	Glu	Glu	Gly	Asn	Glu 175	Phe
Trp	Ser	Ala 180	Leu	Leu	Glu	Lys	Ala 185	Tyr	Ala	Lys	Leu	Asn	Gly 190	Ser	Tyr
Glu	Ala	Leu 195	Val	Gly	Gly	Ser	Thr 200	Ile	Glu	Gly	Phe	Glu 205	Asp	Phe	Thr
Gly	Gly 210	Ile	Ser	Glu	Phe	Tyr 215	Asp	Leu	Lys	Lys	Pro 220	Pro	Glu	Asn	Leu
Tyr 225	Tyr	Ile	Ile	Gln	Lys 230	Ala	Leu	Arg	Lys	Gly 235	Ser	Leu	Leu	Gly	Cys 240
Ser	Ile	Asp	Val 245	Ser	Thr	Ala	Ala	Glu	Ala 250	Glu	Ala	Thr	Thr	Arg 255	Gln
Lys	Leu	Val 260	Lys	Gly	His	Ala	Tyr	Ser 265	Val	Thr	Gly	Val	Glu 270	Glu	Val
Asn	Phe 275	His	Gly	Arg	Pro	Glu	Lys 280	Leu	Ile	Arg	Leu	Arg 285	Asn	Pro	Trp
Gly 290	Glu	Val	Glu	Trp	Ser	Gly 295	Ala	Trp	Ser	Asp	Asn 300	Ala	Pro	Glu	Trp
Asn 305	Tyr	Ile	Asp	Pro	Arg 310	Arg	Lys	Glu	Glu	Leu 315	Asp	Lys	Lys	Ala	Glu 320
Asp	Gly	Glu	Phe 325	Trp	Met	Ser	Phe	Ser	Asp 330	Phe	Leu	Lys	Gln	Tyr 335	Ser
Arg	Leu	Glu 340	Ile	Cys	Asn	Leu	Ser	Pro 345	Asp	Ser	Leu	Ser	Ser 350	Glu	Glu
Ile	His 355	Lys	Trp	Asn	Leu	Val	Leu 360	Phe	Asn	Gly	Arg	Trp 365	Thr	Arg	Gly
Ser	Thr 370	Ala	Gly	Gly	Cys	Leu 375	Asn	Tyr	Pro	Gly	Thr 380	Tyr	Trp	Thr	Asn
Pro 385	Gln	Phe	Lys	Ile	His 390	Leu	Asp	Glu	Val	Asp 395	Glu	Asp	Gln	Glu	Glu 400
Gly	Thr	Ser	Glu 405	Pro	Cys	Cys	Thr	Val 410	Leu	Leu	Gly	Leu	Met	Gln 415	Lys

Asn Arg Arg Arg Gln Lys Arg Ile Gly Gln Gly Met Leu Ser Ile Gly
420 425 430

Tyr Ala Val Tyr Gln Ile Pro Lys Glu Leu Glu Ser His Thr Asp Ala
435 440 445

His Leu Gly Arg Asp Phe Phe Leu Gly Arg Gln Pro Ser Thr Cys Ser
450 455 460

Ser Thr Tyr Met Asn Leu Arg Glu Val Ser Ser Arg Val Arg Leu Pro
465 470 475 480

Pro Gly Gln Tyr Leu Val Val Pro Ser Thr Phe Glu Pro Phe Lys Asp
485 490 495

Gly Asp Phe Cys Leu Arg Val Phe Ser Glu Lys Lys Ala Lys Ala Leu
500 505 510

Glu Ile Gly Asp Thr Val Ser Gly His Pro His Glu Pro His Pro Arg
515 520 525

Asp Met Asp Glu Glu Asp Glu His Val Arg Ser Leu Phe Glu Glu Phe
530 535 540

Val Gly Lys Asp Ser Glu Ile Ser Ala Asn Gln Leu Lys Arg Val Leu
545 550 555 560

Asn Glu Val Leu Ser Lys Arg Thr Asp Met Lys Phe Asp Gly Phe Asn
565 570 575

Ile Asn Thr Cys Arg Glu Met Ile Ser Leu Leu Asp Ser Asp Gly Thr
580 585 590

Gly Ser Leu Gly Pro Met Glu Phe Lys Thr Leu Trp Leu Lys Ile Arg
595 600 605

Thr Tyr Leu Glu Ile Phe Gln Glu Met Asp His Asn His Val Gly Thr
610 615 620

Ile Glu Ala His Glu Met Arg Thr Ala Leu Lys Lys Ala Gly Phe Thr
625 630 635 640

Leu Asn Asn Gln Val Gln Gln Thr Ile Ala Met Arg Tyr Ala Cys Ser
645 650 655

Lys Leu Gly Val Asp Phe Asn Gly Phe Val Ala Cys Met Ile Arg Leu
660 665 670

Glu Thr Leu Phe Lys Leu Phe Arg Leu Leu Asp Lys Asp Gln Asn Gly
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Arg Gln Glu Cys Leu Gln Arg Gly Thr Leu Phe Glu Asp Ala Asp Phe
      35           40           45

Pro Ala Ser Asn Ser Ser Leu Phe Tyr Ser Glu Arg Pro Gln Ile Pro
      50           55           60

Phe Val Trp Lys Arg Pro Gly Glu Ile Val Lys Asn Pro Glu Phe Ile
      65           70           75           80

Leu Gly Gly Ala Thr Arg Thr Asp Ile Cys Gln Gly Glu Leu Gly Asp
      85           90           95

Cys Trp Leu Leu Ala Ala Ile Ala Ser Leu Thr Leu Asn Gln Lys Ala
      100          105          110

Leu Ala Arg Val Ile Pro Gln Asp Gln Ser Phe Gly Pro Gly Tyr Ala
      115          120          125

Gly Ile Phe His Phe Gln Phe Trp Gln His Ser Glu Trp Leu Asp Val
      130          135          140

Val Ile Asp Asp Arg Leu Pro Thr Phe Arg Asp Arg Leu Val Phe Leu
      145          150          155          160

His Ser Ala Asp His Asn Glu Phe Trp Ser Ala Leu Leu Glu Lys Ala
      165          170          175

Tyr Ala Lys Leu Asn Gly Ser Tyr Glu Ala Leu Lys Gly Gly Ser Ala
      180          185          190

Ile Glu Ala Met Glu Asp Phe Thr Gly Gly Val Ala Glu Thr Phe Gln
      195          200          205

Thr Lys Glu Ala Pro Glu Asn Phe Tyr Glu Ile Leu Glu Lys Ala Leu
      210          215          220

Lys Arg Gly Ser Leu Leu Gly Cys Phe Ile Asp Thr Arg Ser Ala Ala
      225          230          235          240

Glu Ser Glu Ala Arg Thr Pro Phe Gly Leu Ile Lys Gly His Ala Tyr
      245          250          255

Ser Val Thr Gly Ile Asp Gln Val Ser Phe Arg Gly Gln Arg Ile Glu
      260          265          270

Leu Ile Arg Ile Arg Asn Pro Trp Gly Gln Val Glu Trp Asn Gly Ser
      275          280          285

Trp Ser Asp Ser Ser Pro Glu Trp Arg Ser Val Gly Pro Ala Glu Gln
      290          295          300

Lys Arg Leu Cys His Thr Ala Leu Asp Asp Gly Glu Phe Trp Met Ala
      305          310          315          320

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Phe	Lys	Asp	Phe	Lys	Ala	His	Phe	Asp	Lys	Val	Glu	Ile	Cys	Asn	Leu	
				325					330					335		
Thr	Pro	Asp	Ala	Leu	Glu	Glu	Asp	Ala	Ile	His	Lys	Trp	Glu	Val	Thr	
				340					345					350		
Val	His	Gln	Gly	Ser	Trp	Val	Arg	Gly	Ser	Thr	Ala	Gly	Gly	Cys	Arg	
				355					360					365		
Asn	Phe	Leu	Asp	Thr	Phe	Trp	Thr	Asn	Pro	Gln	Ile	Lys	Leu	Ser	Leu	
				370					375					380		
Thr	Glu	Lys	Asp	Glu	Gly	Gln	Glu	Glu	Cys	Ser	Phe	Leu	Val	Ala	Leu	
				385					390					395		
Met	Gln	Lys	Asp	Arg	Arg	Lys	Leu	Lys	Arg	Phe	Gly	Ala	Asn	Val	Leu	
				405					410					415		
Thr	Ile	Gly	Tyr	Ala	Ile	Tyr	Glu	Cys	Pro	Asp	Lys	Asp	Glu	His	Leu	
				420					425					430		
Asn	Lys	Asp	Phe	Phe	Arg	Tyr	His	Ala	Ser	Arg	Ala	Arg	Ser	Lys	Thr	
				435					440					445		
Phe	Ile	Asn	Leu	Arg	Glu	Val	Ser	Asp	Arg	Phe	Lys	Leu	Pro	Pro	Gly	
				450					455					460		
Glu	Tyr	Ile	Leu	Ile	Pro	Ser	Thr	Phe	Glu	Pro	His	Gln	Glu	Ala	Asp	
				465					470					475		
Phe	Cys	Leu	Arg	Ile	Phe	Ser	Glu	Lys	Lys	Ala	Ile	Thr	Arg	Asp	Met	
				485					490					495		
Asp	Gly	Asn	Val	Asp	Ile	Asp	Leu	Pro	Glu	Pro	Pro	Lys	Pro	Thr	Pro	
				500					505					510		
Pro	Asp	Gln	Glu	Thr	Glu	Glu	Glu	Gln	Arg	Phe	Arg	Ala	Leu	Phe	Glu	
				515					520					525		
Gln	Val	Ala	Gly	Glu	Asp	Met	Glu	Val	Thr	Ala	Glu	Glu	Leu	Glu	Tyr	
				530					535					540		
Val	Leu	Asn	Ala	Val	Leu	Gln	Lys	Lys	Lys	Asp	Ile	Lys	Phe	Lys	Lys	
				545					550					555		
Leu	Ser	Leu	Ile	Ser	Cys	Lys	Asn	Ile	Ile	Ser	Leu	Met	Asp	Thr	Ser	
				565					570					575		
Gly	Asn	Gly	Lys	Leu	Glu	Phe	Asp	Glu	Phe	Lys	Val	Phe	Trp	Asp	Lys	
				580					585					590		
Leu	Lys	Gln	Trp	Ile	Asn	Leu	Phe	Leu	Arg	Phe	Asp	Ala	Asp	Lys	Ser	
				595					600					605		
Gly	Thr	Met	Ser	Thr	Tyr	Glu	Leu	Arg	Thr	Ala	Leu	Lys	Ala	Ala	Gly	
				610					615					620		
Phe	Gln	Leu	Ser	Ser	His	Leu	Leu	Gln	Leu	Ile	Val	Leu	Arg	Tyr	Ala	
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Asp	Glu	Glu	Leu	Gln	Leu	Asp	Phe	Asp	Asp	Phe	Leu	Asn	Cys	Leu	Val	

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645	650	655
Arg Leu Glu Asn Ala Ser Arg Val Phe Gln Ala Leu Ser Thr Lys Asn		
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Asn Ile		
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29

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